State of New Jersey

Department of Environmental Protection

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Kenneth D. Smith
Naval Air Warfare Center, Aircraft Division - Trenton
P.O. Box 7176
Trenton, NJ 08628-0176

SEP 18 [illegible]

Re: Draft Environmental Baseline Survey Phase II Report for Parcel B

Dear Mr. Smith:

The New Jersey Department of Environmental Protection (NJDEP) is in receipt of the Draft Environmental Baseline Survey Phase II Report for Parcel B dated September 29, 1997. Upon Review, NJDEP has several comments which have been enclosed for your convenience.

If you have any questions regarding this letter, please do not hesitate to contact me at (609) 633-1494.

Sincerely,

Donna L. Gaffigan

Donna L. Gaffigan, Case Manager
Bureau of Federal Case Management

Enclosure

cc. William Hanrahan, BGWPA
Steven Byrnes, BEERA
William Lawler, USEPA
Steve Beebe, NorthDiv

Draft Environmental Baseline Survey (EBS)
Phase II Report for Parcel B

1. General Comment

It is stated that ground water criteria are not available for tentatively identified compounds (TICs). This statement is not accurate. Interim Generic Ground Water Quality Criteria may be found in Table 2 of the New Jersey Ground Water Quality Standards, N.J.A.C. 7:9-6 et. seq. The criteria are as follows:

Synthetic organic chemicals with evidence of carcinogenicity	5 ug/l each, and 25 ug/l total
Synthetic organic chemicals lacking evidence of carcinogenicity	100 ug/l each, and 500 ug/l total

The total TICs found in ground water samples at AOC No. 12 are well above the Interim Generic Ground Water Quality Criteria.

2. Executive Summary, page ES-1

a. In Table ES-1, the recommended action for Area of Concern (AOC) 23 is "Institutional Controls (Soil Excavation)." In accordance with the 1994 Hazardous Discharge Site Remediation Act, N.J.S.A. 58:10B et. seq., "institutional controls" may include, without limitation, structure, land, and natural resource use restrictions, well restriction areas, and deed notices. This definition was modified to include classification exception areas and declarations of environmental restriction with the promulgation of the 1997 Amended Technical Requirements for Site Remediation, N.J.A.C. 7:26E et. seq. (Tech Regs). "Remedial action" as defined in these rules and regulations includes, without limitation, removal, treatment, containment, etc. of a contaminant. Therefore, the proposed soil excavation is a remedial action, not an institutional control. This discrepancy in the table (and elsewhere in the EBS Report) shall be resolved.

b. Mercury vapor sampling was performed in several structures at the Site. Recommendations for mercury vapor were developed based on comparisons of vapor readings to the NIOSH Recommended Exposure Limit for mercury (i.e., 0.05 mg/m3). This number is a 10-hour time-weighted average (TWA) and may be inappropriate in this case. Criteria such as the NIOSH value were developed for a healthy worker population, take into account economics and assume respiratory protection will be utilized when the mercury level is exceeded. If the future use of the buildings at the site will potentially involve unrestricted exposures, EPA's criterion of 0.003 mg/m3 must be used instead of the NIOSH

value. The Jerome MVA method can be used to detect mercury down to this lower level.

This comment applies to Section 2.4.2, also.

3. Section 2.2.3 – Field Modifications, SVA Survey, page 2-6

The method used to bias the selection of soil sampling location should have been based upon a relative, rather than an absolute, approach. Based upon soil vapor assessment (SVA) results collected at one site, 6 ppm was chosen as a cutoff point (i.e. no subsequent soil samples were collected at location where SVA readings were below 6 ppm). Important site-specific variables were not taken into consideration. Variables such as depth to ground water, soil type, total organic carbon (%TOC) in the soil, AOC-specific contaminants and their individual vapor pressures, ambient temperature and weather can all have a profound effect on SVA readings.

Locations with the highest SVA readings within each site should have been selected for soil sampling instead of only those registering above a pre-set 6 ppm threshold. In AOCs where contamination is suspected and no positive SVA readings are detected, a minimum number of samples should still have been proposed and in the future must be proposed.

4. Section 2.4.2 – Data Evaluation, page 2-10

The first and second paragraphs should be revised to read the same as the approved Final EBS Phase II Report for Parcels A & C.

5. Section 2.4.3 – Potential Recommendations, page 2-12

a. This section should be revised to read the same as the approved Final EBS Phase II Report for Parcels A & C.

b. Table 2.4-1, Item (7) should be revised to simply read "Based on communication with NJDEP."

6. Section 3.1.1 - AOC No. 4, AOC Description, page 3-1

The former locations of all above ground storage tanks and underground storage tanks (USTs) need to be indicated on Figures 3.1-1 and 3.1-2 and identified by number (to allow cross-reference with other documents). Also, the dates when the USTs were removed or abandoned in place must be included.

7. Section 3.1.2 – AOC No. 4, Investigation Conducted, page 3-2

It is not clear why soil samples were not collected downgradient of the former tank location west of Building 55. Page 1-4 of the report states the general ground water flow gradient beneath the site is to the south-southeast. This being the case, soil samples may have been collected side gradient (northeast) of the former tank location. The origin of staining on the walls needs to be indicated in the report (i.e., did it originate from the interior or exterior of the building?). The July 1997 work plan called for three soil borings to be installed beneath the tile floor in Building 55, however, just one was installed. The Navy must explain the discrepancy.

8. Section 3.1.4 – AOC No. 4, Conclusions and Recommendations, page 3-3

The Department can not approve no further action until the Navy delineates contaminated soil above the saturated zone to the impact to ground water soil cleanup criteria in accordance with N.J.A.C. 7:26E-4.1(b) which states "...the person responsible for conducting the remediation may delineate the horizontal and vertical limit of the soil contamination to the applicable restricted use standard or the applicable ground water impact soil cleanup criteria, *whichever is lower*". Soil sample 4-BH-8-3.0-3.5 exceeded the Impact to Ground Water (IGW) Soil Cleanup Criteria (SCC) for tricholorethene.

9. Section 3.3.2 – AOC No. 11, Investigation Conducted, page 3-5

a. In those cases where total petroleum hydrocarbon (TPH) results were below 100 ppm, the EBS Phase II Report indicates that the approved July 1997 work plan allowed the elimination of follow-up Target Compound List (TCL) volatile organic compound (VOC) and polycyclic aromatic hydrocarbons (PAH) analyses. As stated on page 3-8 of the work plan and indicated in N.J.A.C. 7:26E 2.1, Table 2, it was NJDEP's understanding that a *minimum of one* sample was to be collected and analyzed for TCL VOCs and PAHs regardless of TPH results. It appears that a sample for VOCs was not collected. This discrepancy shall be resolved.

b. In addition to the proposed ground water sampling, a soil sample must be collected and analyzed for TCL VOCs and PAHs as per New Jersey's Tech Regs and the July 1997 work plan.

10. Section 3.3.4 – AOC No. 11, Conclusions and Recommendations, page 3-6

In the last paragraph on page 3-6, the installation of a ground water monitoring well is recommended. It is further recommended that the well be sampled using

the low flow methods approved for the June 1997 Installation Restoration Program (IRP) ground water sampling event and analyzed VOCs. The proposal to install a monitor well in this location is acceptable. The Navy shall supply a map with the proposed location of the monitor well to the Department. The map shall include soil and ground water analytical data collected from the area.

The proposal to install two wells is acceptable. The Navy's "low flow" sampling methodology is acceptable, provided that the pump intake is positioned in the middle of the screened/open borehole interval and the ground water sample is collected through the pump. The Navy should review the November 1997 "Site Remediation News" which contains an article concerning low flow purging and sampling. Based on that article, the Navy should upgrade its low flow sampling procedures to indicate that a bailer will not be used when performing the low flow method. If samples are to be collected using a bailer, then the Navy shall conform to the requirements of the Department's May 1992 "Field Sampling Procedures Manual".

11. Section 3.4.1 – AOC No. 14, AOC Description, page 3-7

Figure 3.4-1 should show the "Central Sump" location within Pit 2. It should also identify the "pit containing an air compressor."

12. Section 3.4.4 – AOC No. 15, Conclusions and Recommendations, page 3-7

a. This section recommends that the pits and sumps be cleaned during closure activities following cessation of operations at Building 40. NJDEP concurs with this action, however, soil sampling must be conducted should the integrity of the sumps and pits show signs of compromise.

13. Section 3.5.1 – AOC No. 16, AOC Description, page 3-8

One figure should be provided that shows the physical relationship between the Blue Room (Figure 3.5-1), the Green Room (Figure 3.5-2) and Behind the Controls (Figure 3.5-3). All figures must include the orientation (i.e. north arrow).

14. Section 3.5.3 - AOC No. 16, Recommendations and Conclusions, page 3-8

The NIOSH Recommended Exposure Limit for mercury may have been inappropriately applied to mercury vapor screening results collected in the Building 40 control room. The potentially more appropriate criterion and its justification are provided above in Comment 2b addressing the "Executive

Summary" section. Depending upon future use of Building 40, mercury vapor screening results may need to be reevaluated against EPA's criterion of 0.003 mg/m^3 before NJDEP will concur with the no further action recommendation for this AOC.

15. Section 3.6.1 – AOC 20, AOC Description, page 3-9

The text should give a brief explanation of the B-Rig. It should likewise be identified on Figures 3.6-1 and 3.6-2.

16. Section 3.7.1 - AOC 20A, Site Description, page 3-9

The location of roof drains from Building 40 must be included in the AOC Description and on Figure 3.7-1. This information is necessary to ensure that soil samples were collected in the appropriate areas.

17. Section 3.8.2 - AOC No. 20B, Investigation Conducted, Page 3-12

The July 1997 workplan (p. 3-12) called for a minimum of one sample for PAHs. Although no soil sample was analyzed for PAHs, since ground water analysis from a temporary well point installed immediately downgradient of the AOC showed no identifiable B/Ns, no additional soil analysis will be required in this instance.

18. Section 3.8.3 – AOC No. 20B, Investigation Results, page 3-12

The concentration of 1,2-dicholorethene (1,2-DCE)(total) in soil sample 20b-BH1-2.0-2.5 is incorrectly reported to exceed the Residential Soil Cleanup Criterion (i.e., 79,000 ppb). The *most stringent* 1,2-DCE criterion is 1,000 ppb (the IGW SCC for 1,2-cis-DCE) and the reported result for this sample is 253 ppb (total 1,2-DCE). This discrepancy shall be resolved.

19. Section 3.9.1 – AOC 20E, AOC Description, page 3-14

"SETA" must be defined here and/or in the List of Acronyms.

20. Section 3.9.2 - AOC No. 20E, Investigation Conducted, page 3-14

The PAH results (indicating detection limits) from sample 20e-BH4-4.5-5 should be included in Table 3.9.1.

21. Section 3.10.1 – AOC No. 20F, AOC Description, page 3-16

Figure 3.10-1 needs to clearly identify the overhead piping (it looks like a walkway on the figure).

22. Section 3.11.1 - AOC No. 20G, AOC Description, page 3-17

More information regarding where the "detonation spray" mixture ended up after its use in the test cells should be provided. It is not clear whether the spray system was a closed loop or if it resulted in a potential discharge to the environment. NJDEP cannot concur with the no action recommendation for this AOC until this information is provided.

23. Section 3.12.3 - AOC No. 20H, Investigation Results, page 3-20

The NJDEP Residential Direct Contact Soil Cleanup Criterion for cis-1,2-DCE is 79,000 ppb. The referenced concentration of 170 ppb does not exceed this criterion. This discrepancy shall be resolved.

24. Section 3.13.1 – AOC No. 20I, AOC Description, page 3-21

It is not clear if Structure S-32 contains the SETA sump. If so, it should be identified in the text and on Figure 3.13-1 (to allow cross-reference with other documents).

25. Section 3.14.1 – AOC No. 21, AOC Description, page 3-21

There is no figure for this section.

26. Section 3.15.1 – AOC No. 23, AOC Description, page 3-24

The three "gas coolers" should be identified on Figures 3.15-1 amd 3.15-2, as well as the overhead piping.

27. Section 3.15.3 - AOC No. 23, Investigation Results, Page 3-24

a. Presently, an alternate cleanup standard of 39 ppm for cadmium in soils for residential direct contact (consistent with EPA's criterion) is commonly accepted

by NJDEP. It may be obtained via a brief written request/justification submitted to my attention.

b. Levels of total chromium in soils in excess of 500 ppm must be noted in the Declaration of Environmental Restriction (DER) for this AOC.

28. Section 3.16.1 – AOC 26, AOC Description, page 3-26

Figure 3.16-1 needs a north arrow.

29. Section 3.16.4 – AOC No. 26, Recommendations and Conclusions, page 3-26

Regarding mercury vapor screening levels, please refer to Comment No. 1. NJDEP recommends that following cleaning efforts, these control rooms be screened again and the results evaluated against EPA's 0.003 mg/m^3 criterion.

30. Section 3.17.1 – AOC 26A, AOC Description, page 3-27

Figures 3.17-1 and 3.17-2 need north arrows. Also, a figure is needed that shows the physical relationship between Control Room 1E (Figure 3.17-1) and Control Room 2E (Figure 1.17-2).

31. Section 3.17.4 – AOC No. 26A, Recommendations and Conclusions, page 3-28

Regarding mercury vapor screening levels, please refer to Comment 2b. NJDEP recommends that following cleaning efforts, these control rooms be screened again and the results evaluated against EPA's 0.003 mg/m^3 criterion.

32. Section 3.20.1 – AOC No. 32, AOC Description, page 3-31

a. The "leaky 55-gallon drum previously buried east of Building 62" should be identified as an UST (Tank #3) which was removed in accordance with NJDEP regulations. The date of the removal should also be included.

b. Figure 3.20-1 should show the location of the former UST.

33. Section 3.22.1 - AOC No. 35, Investigation Conducted, Page 3-35

Duplicate soil samples must be analyzed for all of the same parameters as their "parent" sample(s). Duplicate samples 35-BH1-2.5-3.0 DUP, 35-BH3-2.0-2.5

DUP and 35-BH4-2.5-3.0 DUP can only be considered partial duplicates. Guidance is provided in NJDEP's "Field Sampling Procedures Manual".

34. Section 3.22.4 – AOC No. 35, Conclusions and Recommendations, page 3-37

The proposal to install two wells is acceptable. The Navy's "low flow" sampling methodology is acceptable, provided that the pump intake is positioned in the middle of the screened/open borehole interval and the ground water sample is collected through the pump. The Navy should review the November 1997 "Site Remediation News" which contains an article concerning low flow purging and sampling. Based on that article, the Navy should upgrade its low flow sampling procedures. In particular, the Navy must not collect samples through a bailer when performing the low flow method. If samples are to be collected using a bailer, then the Navy shall conform to the requirements of the Department's May 1992 "Field Sampling Procedures Manual".

35. Section 3.23.2, AOC No. 36, Investigation Conducted, page 3-38

It is stated that "concrete was encountered in both boreholes." The concrete item should be uncovered and identified, especially in light of the fact that previously unknown UST vaults were recently discovered in several areas of the Base.

36. Section 3.26.1 – AOC No. 56, AOC Description, page 3-42

Figure 3.26-1 must show the containment area surrounding the above ground storage tank. This will illustrate why the soil samples were collected so far away from the tank.

37. Section 3.27.1 – AOC No. 59, AOC Description, page 3-43

This section should state that AOC No. 59 (UST M01) is also known as the ATA sump. ATA should be defined in the text and/or the List of Acronyms and should be identified on Figures 3.27-1 and 3.27-2.

38. Section 3.27.2 – AOC No. 59, Investigation Conducted, page 3-43

NJDEP agrees that the integrity of the sump should be closely evaluated during the removal process. Sampling should be conducted if the sump integrity shows signs of compromise.

39. Section 3.29.1 - AOC No. 61, AOC Description, page 3-47

a. The locations of tanks, associated piping and approximate spill locations need to be shown on Figure 1.4-1, especially where the "fuel lines cross beneath the road."

b. The four stage compressor should also be identified as AOC No. 54.

c. The text must include information about how the JP-5 spill was addressed approximately 3 years ago. Information must include where the spill occurred, volume released and the response actions taken by the Navy.